

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-30 are presently pending in this case. Claims 1, 2, 10, 15, 16, 24, 29, and 30 are amended by the present amendment. As amended Claims 1, 2, 10, 15, 16, 24, 29, and 30 are supported by the original disclosure,¹ no new matter is added.

In the outstanding Official Action, Claims 29 and 30 were rejected under 35 U.S.C. §101; and Claims 1-9, 15-23, 29, and 30 were rejected under 35 U.S.C. §102(b) as anticipated by Birk et al. (U.S. Patent No. 6,768,358, hereinafter "Birk"). However, Claims 10-14 and 24-28 were indicated as including allowable subject matter if rewritten to include the base claim and all intervening claims.

Applicant acknowledges with appreciation the indication of allowable subject matter in Claims 10-14 and 24-28. Claims 10 and 24 are amended here with to include all limitations of the base claim and any intervening claims. Accordingly, Claims 10-14 and 24-28 are allowable.

The title is amended to recite "FREQUENCY CONTROL APPARATUS FOR CONTROLLING THE OPERATION FREQUENCY OF AN OBJECT."

The abstract is amended herewith to place it in conformance with U.S. practice. No new matter is added.

With regard to the rejection of Claims 29 and 30 under 35 U.S.C. §101, Claims 29 and 30 are amended to recite a computer readable medium, which is an article of manufacture. Accordingly, Claims 29 and 30 are in compliance with all requirements under 35 U.S.C. §101.

¹See, e.g., the specification at page 15, lines 15-19.

With regard to the rejection of Claims 1 and 15 as anticipated by Birk, that rejection is respectfully traversed.

Amended Claims 1 and 15 recite in part:

frequency determination means for determining the operation frequency in response to the operation state of the control object; and

frequency limitation means for limiting a range or a value of the operation frequency determined by said frequency determination means, ***said frequency limitation means changing the operation frequency based on an activity of the control object, said activity being a ratio of a period of time within which the control object is operating within a predetermined measurement time period.***

Birk describes a phase locked loop apparatus including a frequency detector 50 and a divider 52.² The outstanding Office Action cited divider 52 of Birk as “frequency limitation means” as recited in original Claims 1 and 15.³ However, it is respectfully submitted that divider 52 of Birk simply divides the output signal by N (for example 2) in every case. As described by Birk at column 9, lines 54-60, the divider ratio is chosen once when the circuit is designed. Therefore, Birk does not teach or suggest any frequency limitation means that changes the operation frequency based on an activity of the control object, the activity being a ratio of a period of time within which a control object is operating within a predetermined measurement time period. In fact, Birk does not teach or suggest determining a ratio of a period of time within which a control object is operating within a predetermined measurement time period for any purpose. Thus, it is respectfully submitted that Birk does not teach “frequency limitation means” as defined in amended Claims 1 and 15. Consequently, amended Claims 1 and 15 (and Claims 2-9 and 16-23 dependent therefrom) are not anticipated by Birk and are patentable thereover.

²See Birk, Figure 4 and column 8, lines 54 and 55.

³See the outstanding Office Action at page 3, lines 12-14 citing the description of divider 52 at column 9, lines 43-60 of Birk.

Amended Claim 29 recites in part:

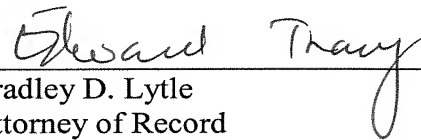
calculating an activity as a ratio of a period of time
within which the control object is operating within a
predetermined measurement time period; and
changing the operation frequency based on the activity
of the control object.

As noted above, Birk does not teach or suggest calculating an activity as a ratio of a period of time within which a control object is operating within a predetermined measurement time period for any purpose. Further, Birk does not teach or suggest changing an operation frequency based on an activity of a control object. Accordingly, amended Claim 29 (and Claim 30 dependent therefrom) is not anticipated by Birk and is patentable thereover.

Accordingly, the pending claims are believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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